1-5-2 Self-diagnosis

(1) Self-diagnostic function

This unit is equipped with a self-diagnostic function. When a problem is detected, copying is disabled and the problem displayed as a code consisting of "C" followed by a number between 0040 and 7810, indicating the nature of the problem. A message is also displayed requesting the user to call for service.
After removing the problem, the self-diagnostic function can be reset by turning safety switches 1 or 2 off and back on.



Figure 1-5-2 Service call code display

(2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0040	**Network scanner PCB* problem** • Correct communication data is not obtained from network scanner PCB.	Defective network scanner PCB.	Replace the network scanner PCB and check for correct operation.
C0100	**Backup memory read/write problem** • Read and write data does not match.	Defective backup RAM or main PCB.	Replace the main PCB and check for correct operation.
C0110	**Backup memory data problem** • Data in the specified area of the backup memory does not match the specified values.	Problem with the backup memory data.	Turn safety switch 1 off and back on and run maintenance item U020 to set the contents of the backup memory data again.
		Defective backup RAM.	If the C0110 is displayed after re-setting the backup memory contents, replace the backup RAM or main PCB.
C0210	**Operation unit PCB communication problem** • There is no reply after 20 retries at communication.	Poor contact in the connector terminals.	Check the connection of connectors CN10 on the main PCB and CN2 on the operation unit PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB or operation unit left PCB.	Replace the main PCB or operation unit left PCB and check for correct operation.
C0240	**Printer PCB* communication problem** • There is no reply after 20 retries at communication.	Poor contact in the connector terminals.	Check the connection of connector CN3 on the main PCB and the connector on the printer PCB. Repair or replace if necessary.
		Defective main PCB or printer PCB.	Replace the main PCB or printer PCB and check for correct operation.
C0250	**Network scanner PCB* communication problem** • There is no reply, in during regular communication from network scanner PCB to main PCB.	Poor contact in the connector terminals.	Check the connection of connector CN4 on the main PCB and the connector on the network scanner PCB. Repair or replace if necessary.
		Defective main PCB or network scanner PCB.	Replace the main PCB or network scanner PCB and check for correct operation.

*: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0420	**Side deck*1 communication problem** • An error code from the side deck is detected eight times in succession. No communication: there is no reply after 3 retries. Abnormal communication: a communication error (parity or checksum error) is detected five times in succession.	Poor contact in the connector terminals.	Check the connection of connectors CN13 on the main PCB and CN3 on the side deck main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Defective side deck main PCB.	Replace the side deck main PCB and check for correct operation.
C0440	**Finisher*2 communication problem** • An error code from the side deck is detected eight times in succession. No communication: there is no reply after 3 retries. Abnormal communication: a communication error (parity or checksum error) is detected five times in succession.	Poor contact in the connector terminals.	Check the connection of connectors CN24 on the main PCB and CN2 on the finisher main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PCB.	Replace the main PCB and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C0610	**Bitmap (DIMM) problem** • There is a problem with the data or address bus of the bitmap DRAM.	Defective main PCB.	Replace the main PCB and check for correct operation.
		DIMM installed incorrectly.	Check if the DIMM is inserted into the socket on the main PCB correctly.
		Defective DIMM.	Replace the DIMM and check for correct operation.
C0630	**DMA problem** • DMA transmission of compressed, decompressed, rotated, relocated or blanked-out image data does not complete within the specified period of time.	Defective main PCB.	Replace the main PCB and check for correct operation.

*1: Optional for 55 cpm copier only. *2: Optional.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0640	**Hard disk drive problem** • The hard disk drive cannot be accessed.	Poor contact of the hard disk drive connector terminals.	Check the connection of connectors CN2 on the main PCB and hard disk drive, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective hard disk drive.	*Run U906 (Resetting partial operation control) to cancel partial operation control. Run U024 (HDD formatting) without turning the power off to initialize the hard disk. Replace the hard disk drive and check for correct operation if the problem is still detected after initialization.*
		Defective main PCB.	Replace the main PCB and check for correct operation.
C1010	**Upper lift motor problem [Drawer 1]** • When the drawer 1 is inserted, the lift limit switch 1 does not turn on within 5.5 s of the upper lift motor turning on. • During copying, the lift limit switch 1 does not turn on within 200 ms of the upper lift motor turning on.	Broken gears or couplings of the upper lift motor.	Replace the upper lift motor.
		Defective upper lift motor.	Check for continuity across the coil. If none, replace the upper lift motor.
		Poor contact of the lift motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective lift limit switch 1.	Check if CN 7-6 on the engine PCB goes low when the lift limit switch 1 is turned off. If not, replace the lift limit switch 1.
		Poor contact of the lift limit switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
C1020	**Lower lift motor problem [Drawer 2]** • When the drawer 2 is inserted, the lift limit switch 2 does not turn on within 5.5 s of the lower lift motor turning on. • During copying, the lift limit switch 2 does not turn on within 200 ms of the lower lift motor turning on.	Broken gears or couplings of the lower lift motor.	Replace the lower lift motor.
		Defective lower lift motor.	Check for continuity across the coil. If none, replace the lower lift motor.
		Poor contact of the lower lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective lift limit switch 2.	Check if CN7-22 on the engine PCB goes low when the lift limit switch 2 is turned off. If not, replace the lift limit switch 2.
		Poor contact of the lift limit switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1100	**Deck right lift motor problem [Drawer 3]** • When the drawer 3 is inserted, the Deck lift limit switch 1 does not turn on within 33 s of the deck right lift motor turning on. • During copying, the deck lift limit switch 1 does not turn on within 200 ms of the deck right lift motor turning on.	Broken gears or couplings of the deck right lift motor.	Replace the deck right lift motor.
		Defective deck right lift motor.	Check for continuity across the coil. If none, replace the deck right lift motor.
		Poor contact of the deck right lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective deck lift limit switch 1.	Check if CN8-2 on the engine PCB goes low when the deck right lift limit switch 1 is turned off. If not, replace the deck lift limit switch 1.
		Poor contact of the deck lift limit switch 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
C1110	**Deck left lift motor problem [Drawer 4]** • When the drawer 4 is inserted, the deck lift limit switch 2 does not turn on within 33 s of the deck left lift motor turning on. • During copying, the deck lift limit switch 2 does not turn on within 200 ms of the deck left lift motor turning on.	Broken gears or couplings of the deck left lift motor.	Replace the deck left lift motor.
		Defective deck left lift motor.	Check for continuity across the coil. If none, replace the deck left lift motor.
		Poor contact of the deck left lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective deck left lift limit switch 2.	Check if CN26-8 on the engine PCB goes low when the deck lift limit switch 2 is turned off. If not, replace the deck lift limit switch 2.
		Poor contact of the deck lift limit switch 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1140	**Side deck* lift motor (going up) problem** • When the side deck's right cover is closed, the upper limit detection switch does not turn on within 17 s of the side deck lift motor turning on. • When the upper limit detection switch detects edge of turning off signal, the upper limit detection switch does not turn on within 200 ms of the side deck lift motor turning on.	Poor contact in the upper limit detection switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective upper limit detection switch.	Replace the upper limit detection switch.
		Defective side deck main PCB.	Replace the side deck main PCB.
C1150	**Side deck* lift motor (going down) problem** • When the side deck's right cover is closed, the lower limit detection switch does not turn on within 17 s of the side deck lift motor turning on. • When the lower limit detection switch detects edge of turning off signal, the lower limit detection switch does not turn on within 200 ms of the side deck lift motor turning on.	Poor contact in the lower limit detection switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective lower limit detection switch.	Replace the lower limit detection switch.
		Defective side deck main PCB.	Replace the side deck main PCB.
C2000	**Image formation motor problem** • LOCK ALM signal remains high for 1 s, 1 s after the drive motor has turned on.	Poor contact in the image formation motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective image formation motor rotation control circuit.	Replace the image formation motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2500	**Paper feed motor problem** • LOCK DRIVE signal remains high for 1 s, 1 s after the paper feed motor has turned on.	Poor contact in the paper feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective paper feed motor rotation control circuit.	Replace the paper feed motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.

*: Optional for 55 cpm copier only.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2550	**Paper conveying motor problem** • LOCK ALM signal remains high for 1 s, 1 s after the paper conveying motor has turned on.	Poor contact in the paper conveying motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective paper conveying motor rotation control circuit.	Replace the paper conveying motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2600	**Deck drive motor problem** • LOCK ALM signal remains high for 1 s, 1 s after the deck drive motor has turned on.	Poor contact in the deck drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective deck drive motor rotation control circuit.	Replace the deck drive motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
C2640	**Side deck* drive motor problem** • SDDM ALM signal remains high for 1 s, 1 s after the side deck drive motor has turned on. **Scanner carriage problem**	Poor contact in the side deck drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective side deck drive motor rotation control circuit.	Replace the side deck drive motor.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.

*: Optional for 55 cpm copier only.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3100	• The home position is not correct when the power is turned on or copying the document placed on the contact glass.	Poor contact of the connector terminals.	Check the connection of connector CN10 on the engine PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective scanner home position switch.	Replace the scanner home position switch.
		Defective engine PCB or scanner drive PCB.	Replace the engine PCB or scanner drive PCB and check for correct operation.
		Defective scanner motor.	Replace the scanner motor.
C3300	**Optical system (AGC) problem** • After AGC, correct input is not obtained at CCD.	Insufficient exposure lamp luminosity.	Replace the exposure lamp or inverter PCB.
		Defective engine PCB.	Replace the engine PCB and check for correct operation.
		Incorrect shading position.	Adjust the position of the contact glass (shading plate). If the problem still occurs, replace the scanner home position sensor.
		CCD PCB output problem.	Replace the ISU.
C4000	**Polygon motor synchronization problem** • The polygon motor does not reach the stable speed within 9 s of the START signal turning on.	Poor contact in the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective polygon motor.	Replace the LSU.
		Defective power source PCB.	Check if 24 V DC is supplied to CN1-4 on the main PCB. If not, replace the power source PCB.
		Defective engine PCB.	Check if 24 V DC is output from CN14-14 on the engine PCB. If not, replace the main PCB.
C4010	**Polygon motor steady-state problem** • The polygon motor rotation is not stable for 600 ms after the polygon motor rotation has been stabilized. **BD steady-state problem**	Poor contact in the polygon motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective polygon motor.	Replace the LSU.
		Defective power source PCB.	Check if 24 V DC is supplied to CN1-4 on the main PCB. If not, replace the power source PCB.
		Defective engine PCB.	Check if 24 V DC is output from CN14-14 on the engine PCB. If not, replace the main PCB.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C4100	***BD initialization (A) problem*** *When power is turned on, only laser A is output and MIP detects a BD error for 600 ms.*	*Defective laser scanner unit.*	*Replace the LSU.*
		Defective main PCB.	*Replace the main PCB and check for correct operation.*
C4110	***BD initialization (B) problem*** *When power is turned on, only laser B is output and MIP detects a BD error for 600 ms.*	*Defective laser scanner unit.*	*Replace the LSU.*
		Defective main PCB.	*Replace the main PCB and check for correct operation.*
C4200	• The VTC detects a BD error for 600 ms after the polygon motor rotation has been stabilized.	Defective laser diode.	Replace the LSU.
		Defective polygon motor.	Replace the LSU.
		Defective main PCB.	Replace the main PCB and check for correct operation.
C5100	**Main charger problem** MC ALM signal is detected continuously for 400 ms when MC REM signal is turned on.	Leakage during main charging.	Check and clean the main charger unit.
		Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
C5110	**Transfer/separation charger problem** SC/TC ALM signal is detected continuously for 400 ms when SC/TC REM signal is turned on.	Leakage during transfer/separation charging.	Check and clean the transfer charger unit.
		Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
C5300	***Eraser problem*** *After completion of potential adjustment (automatic adjustment), the drum surface potential is 400 V or more.*	*Poor contact in the image formation unit connector terminals.*	*Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.*
		Poor contact in the eraser lamp connector terminals.	*Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.*
		Defective eraser lamp.	*Replace the eraser lamp.*
		Defective engine PCB.	*Replace the engine PCB and check for correct operation.*
		Defective main PCB.	*Replace the main PCB and check for correct operation.*

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C5500	**Drum surface potential sensor problem 1** Drum surface potential sensor output voltage is 0.5 V or less when MC REM signal is turn on. (except during stepping control)	Poor contact in the drum surface potential sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, repair or replace the cable.
		Defective drum surface potential sensor.	Replace the drum surface potential sensor.
		Defective engine PCB.	Replace the engine PCB and check for correct operation.
		Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
C5510	**Drum surface potential sensor problem 2** Drum surface potential sensor output voltage is 4.5 V or less when MC REM signal is turn on. (except during stepping control)	Defective drum surface potential sensor.	Replace the drum surface potential sensor.
C5600	**Drum surface potential problem 1** • Maximizing the grid output cannot set the potential.	Deteriorated main charger.	Check the main charger wire and replace it if necessary.
		Grid or main charger shield is dirty.	Clean the grid or main charger shield if necessary.
		Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
		Defective engine PCB.	Replace the engine PCB and check for correct operation.

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Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C5610	**Drum surface potential problem 2** • Minimizing the grid output cannot set the potential.	Defective high voltage transformer PCB.	Replace the high voltage transformer PCB and check for correct operation.
C6000	**Broken fixing heater wire** • The fixing temperature does not increase for 40 s after the fixing heaters have been turned on for warming up. • The fixing temperature remains below 50°C/122°F for 10 s continuously after the fixing heaters have been turned on during stabilization.	Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN25 on the engine PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Fixing unit thermistor installed incorrectly.	Check and reinstall if necessary.
		Fixing unit thermostat triggered.	Check for continuity. If none, replace the fixing unit thermostat.
		Fixing heater M and S installed incorrectly.	Check and reinstall if necessary.
		Broken fixing heater M and S wire.	Check for continuity. If none, replace the fixing heater M and S.
C6020	**Abnormally high fixing unit thermistor temperature** • The fixing temperature exceeds 220°C/446 °F for 10 s. • The fixing unit temperature detection circuit on the engine PCB detects and abnormally high temperature.	Shorted fixing unit thermistor.	Measure the resistance. If it is 0 Ω, replace the fixing unit thermistor.
		Broken fixing heater control circuit on the power source PCB.	Replace the power source PCB and check for correct operation.
C6030	**Broken fixing unit thermistor** • The fixing temperature remains at 0°C/32°F for 30 s continuously when the fixing heater is on.	Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN25 on the engine PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Broken fixing unit thermistor.	Check and reinstall if necessary.
C6050	**Abnormally low fixing unit thermistor temperature** • The fixing temperature remains below 120°C/248°F for 10 s.	Poor contact in the fixing unit thermistor connector terminals.	Check the connection of connector CN25 on the engine PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Broken fixing unit thermistor wire.	Measure the resistance. If it is ∞ Ω, replace the fixing unit thermistor.
		Fixing unit thermistor installed incorrectly.	Check and reinstall if necessary.
		Fixing unit thermostat triggered.	Check for continuity. If none, replace the fixing unit thermostat.
		Fixing heater M and S installed incorrectly.	Check and reinstall if necessary.
		Broken fixing heater M and S wire.	Check for continuity. If none, replace the fixing heater M and S.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6400	**Zero-crossing signal problem** • The main PCB does not detect the zero-crossing signal (Z CROSS SIG) for the time specified below. At power-on: 3 s Others: 5 s	Poor contact in the connector terminals.	Check the connection of connectors CN17 on the main PCB and CN2 on the power source PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective power source PCB.	Check if the zero-crossing signal is output from CN2-7 on the power source PCB. If not, replace the power source PCB.
		Defective main PCB.	Replace the main PCB if C6400 is detected while CN2-7 on the power source PCB outputs the zero-crossing signal.
C7100	**Toner sensor problem** • The toner sensor output voltage is outside the range of 0.5 to 4.5 V during copying or in maintenance item U130. • The toner sensor control voltage cannot be set within the range in maintenance item U130.	Defective toner sensor.	Replace the toner sensor.
		Poor contact in the toner sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective developer.	Replace the developer.
C7300	**Toner hopper problem** • Toner level is not detected when toner empty is detected.	Defective toner level detection sensor.	Replace the toner level detection sensor.
		Poor contact in the toner level detection sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
C7800	**Broken external temperature thermistor** • The input voltage is 4.5 V or more.	Poor contact in the humidity sensor PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective external temperature thermistor.	Replace the humidity sensor PCB and check for correct operation.
C7810	**Short-circuited external temperature thermistor** • The input voltage is 0.5 V or less.	Defective external temperature thermistor.	Replace the humidity sensor PCB and check for correct operation.
		Defective humidity sensor PCB.	Replace the humidity sensor PCB and check for correct operation.